L11 ANSWER 1 OF 5 CA COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 145:430085 CA <<LOGINID::20080108>>
TITLE: Effects of SiN passivation by catalytic chemical vapor deposition on electrical properties of AlGaN/GaN heterostructure field-effect transistors
AUTHOR(S): Higashiwaki, Masataka; Onojima, Norio; Matsui, Toshiaki; Mimura, Takashi
CORPORATE SOURCE: National Institute of Information and Communications Technology, Koganei, Tokyo, 184-8795, Japan
SOURCE: Journal of Applied Physics (2006), 100(3), 033714/1-033714/6
CODEN: JAPIAU; ISSN: 0021-8979
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We investigated the effects of SiN passivation by catalytic chemical vapor deposition (Cat-CVD) on the elec. properties of AlGaN/GaN heterostructure field-effect transistors. The two-dimensional electron d. (Ns) greatly increased after the Cat -CVD SiN deposition, and the tendency of the increase was enhanced with decreasing AlGaN barrier thickness. As a result of the large increase in Ns, the sheet resistance (Rsh) significantly decreased after the deposition, and it had low values of 320-460 Ω/.box. for extremely thin AlGaN barriers of 4-10 nm. The increase in Ns showed little dependence on SiN thickness, indicating that the stress applied to the AlGaN barrier by SiN cannot be the origin of the increase. Cat -CVD SiN also improved the in-plane uniformity of mobility for extremely thin-barrier structures, which in turn improved the uniformity of Rsh. Moreover, we found that Cat-CVD was more effective than plasma-enhanced chemical vapor deposition in increasing Ns. A comparison of theor. calcns. and exptl. results indicated that these behaviors can be explained by a decrease in the AlGaN surface barrier height due to the SiN deposition.
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 5 CA COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 142:422508 CA <<LOGINID::20080108>>
TITLE: Gas sensor device
INVENTOR(S): Sandvik, Peter Micah; Tilak, Vinayak; Tucker, Jesse; Weaver, Stanton Earl; Shaddock, David Mulford; Male, Jonathan Lloyd; Lemmon, John Patrick; Woodmansee, Mark Allen; Manivannan, Venkatesan; Haitko, Deborah Ann
PATENT ASSIGNEE(S): General Electric Company, USA
SOURCE: U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005097941	A1	20050512	US 2003-706767	20031112
US 7053425	B2	20060530		
CA 2544939	A1	20050609	CA 2004-2544939	20041012
WO 2005052566	A2	20050609	WO 2004-US33506	20041012

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     WO 2005052566          A3     20050901
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
             SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
             SN, TD, TG
     EP 1685394             A2     20060802    EP 2004-794773         20041012
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK
     JP 2007512514          T      20070517    JP 2006-539502         20041012
PRIORITY APPLN. INFO.:                         US 2003-706767      A  20031112
                                               WO 2004-US33506     W  20041012
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AB A gas sensor device including a semiconductor substrate; one or more catalytic gate-electrodes deposited on a surface of the semiconductor substrate; one or more ohmic contacts deposited on the surface of the semiconductor substrate and a passivation layer deposited on at least a portion of the surface; wherein the semiconductor substrate includes a material selected from the group consisting of silicon carbide, diamond, Group III nitrides, alloys of Group III nitrides, zinc oxide, and any combinations thereof.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 3 OF 5 CA

ACCESSION NUMBER: 142:359639 CA <<LOGINID::20080108>>

TITLE: NH3 and urea in the selective catalytic reduction of NOx over oxide-supported copper catalysts

AUTHOR(S): Sullivan, James A.; Doherty, Julie A.
CORPORATE SOURCE: Dep. Chem., Univ. Coll. Dublin, Dublin, Ire.

SOURCE: Applied Catalysis, B: Environmental (2005), 55(3), 185-194
CODEN: ACBEE3; ISSN: 0926-3373
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The temperature-programmed activity of a series of oxide-supported (TiO2, Al2O3, and SiO2) Cu catalysts formed from two different Cu precursors [Cu(NO3)2 and CuSO4] for the selective catalytic reduction of NOx using solns. of urea as a reductant have been determined These activities are compared to those found using NH3 as a reducing agent over the same catalysts in the presence of H2O, and it is found that catalysts that are active for the selective reduction of NOx with NH3 are inactive for its reduction using solns. of urea. Poisoning of the surface by adsorbed H2O is not responsible for all of this decrease in activity, and it is postulated that the urea is not hydrolyzing to form NH3 over the catalysts but rather is oxidizing to form N2 or forming passivated layers of polymeric melamine complexes on the surface. The catalysts were characterized by temperature-programmed reduction, while temperature-programmed desorption and oxidation of NH3 and temperature-programmed decomposition of urea are used to

characterize the interaction of both reductants with the various catalysts.
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 5 CA COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 118:25597 CA <<LOGINID::20080108>>
TITLE: The effect of chromium in substrate of aluminized steel sheet on corrosion behavior under exhaust gas condensate in automotive muffler
AUTHOR(S): Higuchi, Seijun; Asakawa, Kenichi
CORPORATE SOURCE: Yawata Res. Dev. Lab., Nippon Steel Corp., Japan
SOURCE: Tetsu to Hagane (1992), 78(10), 1569-76
CODEN: TEHAA2; ISSN: 0021-1575
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB The following are main results of investigation about the effect of chromium of substrate on corrosion behavior of aluminized steel sheets in neutral or weakly alkaline solution of NH4+ which contains Cl-, SO42-, CH3COO- and HCOO- which are found in exhaust gas condensate. Corrosion resistance of aluminized steel is enhanced if the substrate contains more than 5 wt% of chromium. One reason is cathodic corrosion protection of a coating layer at coating defects, and the other is the improvement in corrosion resistance of base steel itself. The improvement in corrosion resistance of base steel is due to the covering effect of Cr2O3 oxide film on steel in the ambient air and the effect of being passivated in each solution which contains (NH4)2SO4, CH3COONH4, or HCOONH4 individually.. Substrate chromium steel has more stable cathodic protection than low carbon steel due to these films on the surface. The effect grows as chromium content increases and is remarkable especially in case of 11 weight% Cr steel. In the synthetic condensate solution including various ion passivation is generated on the surface of 11 weight% Cr steel even in presence of substantial Cl- ion. Therefore an aluminized steel sheet with substrate containing more than 11 wt% Cr shows practically excellent corrosion performance.

L11 ANSWER 5 OF 5 CA COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 111:185894 CA <<LOGINID::20080108>>
TITLE: Multilayer ceramic coatings from metal oxides and hydrogen silsesquioxane resin ceramified in ammonia
INVENTOR(S): Haluska, Loren Andrew; Michael, Keith Winton; Tarhay, Leo
PATENT ASSIGNEE(S): Dow Corning Corp., USA
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 323186	A2	19890705	EP 1988-312293	19881223
EP 323186	A3	19900919		
EP 323186	B1	19940316		
R: DE, FR, GB, NL				
US 4849296	A	19890718	US 1987-138744	19871228

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     CA 1323529             C      19931026    CA 1988-583713         19881122
     JP 01204432            A      19890817    JP 1988-320735         19881221
     JP 06103690            B      19941214
     JP 07025606            A      19950127    JP 1990-800027         19900417
     JP 08005656            B      19960124
PRIORITY APPLN. INFO.:                         US 1987-138744     A   19871228
AB   Mixts. of H silsesquioxane resin and metal oxide precursors such as
     acyloxy and alkoxy compds. of Al, Zr, and Ti can be coated on substrates
     and subsequently ceramified at low temperature in the presence of NH3, with or
     without Pt or Rh catalysis, to form a nitrided ceramic coating
     on the surface of the substrate.  The nitrided coatings produced
     are useful as interlevel dielec. films or for planarizing and protecting
     the surface of electronic devices.  For further surface
     protection, overcoating the nitrided coating with an addnl. layer of a
     passivating ceramic material and a top layer of a barrier ceramic
     material is also described.


=> d his

     (FILE 'HOME' ENTERED AT 10:50:23 ON 08 JAN 2008)

     FILE 'CA' ENTERED AT 10:50:30 ON 08 JAN 2008
L1          9396 S PICOLINE? AND PREP?
L2        425713 S AMMONIA OR NH4
L3           606 S L1 AND L2
L4           175 S TITANIUM-SILICATE CAT?
L5             1 S L4 AND L3
L6             1 S L4 AND PASSIVAT?
L7            42 S SURFACE AND PASSIVA? AND TITANI? AND SILIC? AND CAT?
L8             1 S L7 AND PICOLIN?
L9            41 S L7 NOT L8
L10       306054 S L9 AND AMMONIA OR NH4 OR NH
L11            5 S L10 AND L9

=> s selective passivation
        417158 SELECTIVE
         41148 PASSIVATION
L12           22 SELECTIVE PASSIVATION
                  (SELECTIVE(W)PASSIVATION)

=> d his

     (FILE 'HOME' ENTERED AT 10:50:23 ON 08 JAN 2008)

     FILE 'CA' ENTERED AT 10:50:30 ON 08 JAN 2008
L1          9396 S PICOLINE? AND PREP?
L2        425713 S AMMONIA OR NH4
L3           606 S L1 AND L2
L4           175 S TITANIUM-SILICATE CAT?
L5             1 S L4 AND L3
L6             1 S L4 AND PASSIVAT?
L7            42 S SURFACE AND PASSIVA? AND TITANI? AND SILIC? AND CAT?
L8             1 S L7 AND PICOLIN?
L9            41 S L7 NOT L8
L10       306054 S L9 AND AMMONIA OR NH4 OR NH
L11            5 S L10 AND L9
L12           22 S SELECTIVE PASSIVATION
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=> s l12 and l4
L13            0 L12 AND L4

=> s select? passivat?
       1319463 SELECT?
         50759 PASSIVAT?
L14         42 SELECT? PASSIVAT?
                 (SELECT?(W)PASSIVAT?)

=> s l14 and l4
L15            0 L14 AND L4

=> s l1 and l14
L16            0 L1 AND L14

=> d his

     (FILE 'HOME' ENTERED AT 10:50:23 ON 08 JAN 2008)

     FILE 'CA' ENTERED AT 10:50:30 ON 08 JAN 2008
L1          9396 S PICOLINE? AND PREP?
L2        425713 S AMMONIA OR NH4
L3           606 S L1 AND L2
L4           175 S TITANIUM-SILICATE CAT?
L5             1 S L4 AND L3
L6             1 S L4 AND PASSIVAT?
L7            42 S SURFACE AND PASSIVA? AND TITANI? AND SILIC? AND CAT?
L8             1 S L7 AND PICOLIN?
L9            41 S L7 NOT L8
L10       306054 S L9 AND AMMONIA OR NH4 OR NH
L11            5 S L10 AND L9
L12           22 S SELECTIVE PASSIVATION
L13            0 S L12 AND L4
L14           42 S SELECTIVE PASSIVAT?
L15            0 S L14 AND L4
L16            0 S L1 AND L14

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ACCESSION NUMBER: 142:113907 CA
TITLE: Catalytic process for the production of pyridine and picolines from ammonia and carbonyl compounds
INVENTOR(S): Kumar, Rajiv; Joshi, Praphulla Narahar; Chapekar, Gopal Moreshwar; Niphadkar, Prashant Suresh; Agarwal, Ashutosh; Verma, Pradeep Kumar; Singh, Kumar Samir
PATENT ASSIGNEE(S): Council of Scientific and Industrial Research, India; Jubilant Organosys Ltd.
SOURCE: PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2005000816	A1	20050106	WO 2003-IN465		20031231
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
US 2005131235	A1	20050616	US 2003-731440		20031210
AU 2003300721	A1	20050113	AU 2003-300721		20031231
EP 1648869	A1	20060426	EP 2003-817293		20031231
EP 1648869	B1	20071107			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK					
AT 377587	T	20071115	AT 2003-817293		20031231
PRIORITY APPLN. INFO.:			IN 2003-DE853	A	20030627
			WO 2003-IN465	W	20031231

OTHER SOURCE(S): CASREACT 142:113907

AB A process for the prepn. of pyridine and/or picolines (e.g., a mixture of α- picoline and γ- picoline) is described which comprises contacting a mixture of a carbonyl compound (e.g., acetaldehyde) with ammonia in the presence of a surface-passivated titanium silicate catalyst in gas phase at 300-500°/1-10 bar, a gas space velocity of 300-3000 h-1, condensing and separating the products by conventional methods and if desired, further purifying the product using conventional methods.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT.